NavMed 369

UNITED STATES NAVY

MEDICAL NEWS LETTER

Editor - Captain L. B. Marshall, MC, USN

Vol. 20 Friday, 5 September 1952 No. 4

TABLE OF CONTENTS

OPPORTUNITY

The increased use of audio-visual aids in teaching programs everywhere has been reflected in a growing audio visual program in the Bureau of Medicine and Surgery embracing planning and production of medical films, filmstrips, and exhibits. In the forefront of such development is the planning of curriculum integrated audio-visual aids designed to accelerate teaching and increase subject matter retention time. Graduate medical and dental programs, internship and residency training programs, Hospital Corps Schools, et cetera, require a large number of audio-visual aids. The wide variety of experience available makes this a most challenging assignment.

Additional personnel are required and the Bureau of Medicine and Surgery will be pleased to accept applications from medical officers, with ranks of lieutenant or above, interested in the planning and production of medical training films, exhibits and other audio-visual aids required by Medical Department training programs. Since a general knowledge of public health is desirable, interested medical officers who do not have this background would be designated to attend a School of Public Health for a period of one (1) year and leading to a Master of Public Health degree. Following graduation, attendance at several special short courses, over a period of some 3 or 4 months, would provide a working knowledge of film structure and exhibit production techniques.

Applications should be addressed to: The Surgeon General, Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C.

* * * * * *

Indications and Contraindications for Treatment of Thyroid Cancer with Radioactive Iodine

Ten years have elapsed since the first patient with carcinoma of the thyroid was treated with radioactive iodine. More than 250 thyroid carcinoma patients have been treated since then with radioactive iodine, I^{131}. Review of the literature and the author's experience in treating 24 such patients have indicated certain criteria to be of definite value in the selection of patients for I^{131} therapy. Lack of regard for these criteria has led to wasteful use of I^{131} and rise of false hopes in the thyroid cancer patient.

To be a suitable candidate for radioactive iodine therapy a patient first should have had a total thyroidectomy, with radical neck dissection when indicated. If the surgeon is unable to eradicate all palpable or visible neoplasm, the x-ray therapist should try for cure or palliation if he believes that this mode of therapy might help. When these well-established forms of therapy have been used or deemed no longer helpful, biopsy may suggest

that the patient is a good candidate for I^{131} therapy if it demonstrates follicular and alveolar or papillary neoplasm in primary and metastatic form. Another indication predicting a good response to therapy is demonstrated ability of thyroid cancer to concentrate I^{131} as shown by (1) a positive autoradiograph; (2) a high uptake in the metastasis demonstrated by external gamma counting; (3) less than 30% of an administered dose of I^{131} excreted in the urine in the first 48 to 96 hours after the dose; or (4) low level of I^{131} in the circulating blood after a tracer dose of I^{131}. A more nearly complete response can be promoted by increasing the thyroid stimulating hormone (TSH) effect on metastases through total thyroidectomy thiouracil administration, and exogenous administration of TSH.

Temporary contraindications to I^{131} therapy include clinical myxedema, administration of desiccated thyroid or iodides, and the presence of hypoplasia of bone marrow. (Ann. Int. Med., July 1952. W. H. Beierwaltes)

* * * * * *

Methemoglobinemia—Recognition, Treatment, and Prevention

The term "methemoglobinemia" as it is used by the industrial medical groups associated with the chemical industries refers to the cyanosis or "blue lip" resulting from poisoning by one of the aromatic nitro or amino compounds. Cases of congenital abnormalities in the red cells have been reported with methemoglobin formation. The ingestion of nitrates and nitrites in drinking water and bacterial fermentation in the intestinal tract have been reported as causing methemoglobinemia. Discussion is limited to those cases of methemoglobinemia resulting from poisoning by aromatic nitro and amino compounds. The simplest and most characteristic of these compounds are aniline and nitrobenzene.

Nitrobenzene and aniline oil may be absorbed through the skin, the respiratory tract, or by ingestion. The formation of methemoglobin in the blood stream is rapidly followed by a reversible reaction to oxyhemoglobin. Early in the course of the poisoning, the patient feels perfectly well. Only after a large amount of methemoglobin is present in the blood stream does he manifest any symptoms. Early recognition of cyanosis aids in minimizing the effects. Prompt treatment is essential for rapid recovery. A conservative method of treatment is described and recommended.

The laboratory spectrophotometer can be used to measure the percent of methemoglobin rapidly and accurately. A spot check test is described for use in the field in evaluating air concentrations of aniline.

Constant supervision and inspections by the medical department and the industrial hygiene units are necessary to prevent poisoning by aromatic nitro and amino compounds. (Industrial Medicine and Surgery, Aug. 1952, A. F. Mangelsdorff)

* * * * * *

Abuses of a Low-Sodium Content Diet in Cardiovascular Disease

In the past decade dietary restriction of sodium has been established as an adjunct to the therapeutic management of the cardiac patient with congestion. Restriction of salt intake to a level less than the urinary output of chloride will decrease edema and restriction of the intake of water alone is ineffectual. As a consequence of use of low-sodium diets for congestive heart failure, adequate intake of water ordinarily can be permitted, and as a result of the alleviation of thirst and dehydration, the patient has been made more comfortable. Dietary restriction of salt also has made the task of obtaining and maintaining cardiac compensation easier and less time-consuming for the physician.

Use of low-sodium diets has been extended also to the treatment of both essential and renal hypertension and to the management of fluid retention of nephritic, hepatic, and hormonal origin.

Restriction of sodium and chloride intake for heart disease is a rational therapeutic measure only when the cardiac disease has progressed to the point of provoking renal mechanisms which cause retention of these electrolytes and water. The concept is now widely accepted that edema in cardiac failure is caused by retention of salt and water secondary to the failure of the kidneys to excrete salt and water.

The fundamental initial physiologic disturbance in chronic congestive heart failure is the relative or absolute decrease in cardiac output. As a result of decreased cardiac output, there is a decrease in the renal plasma flow and in the rate of glomerular filtration. Tubular function in straightforward congestive failure remains good. As a result the reduced glomerular filtrate with its sodium chloride and water is more nearly completely reabsorbed than normally and thus is retained. Undoubtedly hormonal and probably neurogenic influences are involved in this renal participation in the syndrome of congestive failure, but the actual mechanisms are not clear.

The low-sodium diet, although an extremely useful measure in the treatment of cardiovascular disorders, requires rational usage. It has no purpose in the treatment of heart disease unless there is evidence that cardiac output is reduced absolutely or relatively to the point at which renal mechanisms cause retention of salt and water and the syndrome of congestive heart failure is manifest. The insistence that patients with functional cardiac disturbances and with organic cardiac ailments who have never had a decompensation follow a low sodium diet is unwarranted and may be of nutritional, psychologic, and economic detriment. The degree of restriction of sodium and chloride should be graduated for the patient depending on the severity of his congestive failure. When reversible cardiac loads have been removed, restriction of salt may be lessened accordingly.

Although hypertension may occasionally respond to a low-sodium diet, its use is frequently abused by its being continued indefinitely for unresponsive patients, particularly when the degree of restriction is therapeutically inadequate.

A hazard of salt restriction, especially when mercurial diuretics are frequently administered, is the depletion of plasma electrolytes characterized clinically by what is known as "the low salt syndrome." Although this clinical state usually occurs in the terminal phase of congestive failure, it is sufficiently reversible by restoration of plasma electrolytes to be considered in every patient whose condition deteriorates while being treated with a low-sodium diet. A return of the patient's responsiveness to mercurial diuretics at times may be produced by prompt therapy with hypertonic saline solution and sometimes with ammonium chloride.

Rigid dietary restriction of sodium and diuresis of sodium can disturb the compensated respiratory acidosis of chronic cor pulmonale and produce dangerous depression of pH of the blood. (Minnesota Medicine, July 1952, M. W. Anderson)

* * * * * *

Electrostethography.

The method herein described differs in so many details from current practices in phonocardiography that the term "new" has been used. In a study of vocal fremitus electrical equipment is described which eliminated the distortions due to stethoscopic attachments and recording systems with limited frequency response and the use of the term "electrostethography" is suggested for equipment free from these sources of error. The present method is a reapplication of some of these principles plus the development of a rapid and reliable calibration system which is basic to the problem of recording cardiodynamics.

The equipment consists of contact microphone, amplifier, electron to light converter, camera, and calibrating equipment. These are briefly described together with results obtained.

The present method involves a direct conversion of the vibration at the precordium to an electrical impulse which can be amplified and converted to a light deflection by apparatus that is rugged and dependable and subject to calibration by well-standardized procedures. The addition of the pistonphone and the secondary calibrater adds the necessary calibration at the input so that the over-all method errors can be held within 5% variation and can be improved by further refinement. The use of the crystal microphone, together with the circuit constants employed in the input stage, limits the low frequency response of the equipment so that the microphone does not respond to slow variations such as the gross heart beat and respiration, or static pressure. The method being a direct application of vibrational analysis, in contrast to phonocardiography, permits a study of the timing of various components of the cardiac cycle and an evaluation of strains and abnormal activity. The sensitivity of the method is in contrast to the slow frequency response obtained in measuring pressure changes

through long and narrow catheters. The multiple microphone technique permits simultaneous study of the same heart cycle in different areas of the precordium. In comparison with electrocardiography, the records are much more complex but the records are direct results of cardiodynamics and are not action potentials. Although the method in its present quantitative form provides useful information, it will be necessary to reidentify the various phases of the cardiac cycle by their characteristic patterns before one can talk in terms of ejection times, pressure times, and abnormal dissociation of parts of the cardiac cycle.

The method involves direct conversion of the cardiac forces at the precordium into electrical impulses, followed by amplification and conversion to light deflections by electrostatic means. Calibration is in absolute units, and conditions for predictable operation have been determined and applied to the development of a method applicable to clinical study. Some of the results of precordial study using multiple identical microphones are presented. The method is applicable to the study of cardiodynamics as transmitted to the precordium and prompts a reidentification of various phases of the cardiac cycle in the normal and diseased heart. (Am. Heart J., July 1952, F. L. Dunn and W. E. Rahm, Jr.)

* * * * * *

The Effect of Probenecid (Benemid) in Enhancing Para-aminosalicylic Acid Concentrations in the Blood

The efficacy of para-aminosalicylic acid (PAS) alone or in combination with streptomycin in the treatment of tuberculosis is well established. Effective bacteriostatic levels against the tubercle bacillus are reported to be 0.015 to 1.5 mg. per 100 ml. of plasma. It is probable, however, that if such concentrations are to be achieved in the extravascular diseased areas of the body, even higher concentrations must be maintained in the plasma.

The rapidity of urinary excretion of PAS makes frequent large doses of the drug desirable to maintain high plasma concentrations, but the limiting factor is the fact that most patients cannot tolerate a daily dose in excess of 12 gm., because of gastrointestinal irritation. A drug capable of delaying the renal excretion of PAS and thus increasing blood concentrations with smaller doses of PAS would produce the same effect as larger doses of PAS alone.

Probenecid (Benemid) has been demonstrated to exert an inhibitory effect on the renal excretion of PAS with a concomitant rise in plasma concentrations of the drug. The mechanism in the renal excretion of PAS appears to involve the inhibition of an enzyme system active in combining PAS with glycine. Presumably, the conjugate is excreted much more readily than free PAS. Inhibition of this enzyme system, therefore, should

result in higher and more sustained PAS concentrations. Plasma concentrations of PAS in patients who are also receiving probenecid have been shown to be elevated approximately 2 to 4 times the levels attained without probenecid. Probenecid has proved to be a relatively nontoxic drug both in animals and in man. The optimal dose has been determined to be 0.5 gm. every 6 hours orally for most patients.

Blood PAS concentrations of 15 tuberculous patients who received 12 gm. of oral PAS daily were studied before and after the addition of 2 gm. of probenecid daily to PAS dosage, resulting in a 40 to 50% enhancement of blood PAS concentrations after the addition of probenecid.

Reduction of PAS dosage to 8 gm. daily, together with 2 gm. of probenecid, resulted in blood concentrations below those attained by either 12 gm. regimen, with or without probenecid, but were close to the concentrations obtained with 3 gm. of PAS 4 times a day. (Am. Rev. Tuberc., Aug. 1952, R. B. Breitenbucher, D. S. Amatuzio, and A. Falk)

* * * * * *

Studies of Electrocardiographic Changes During Exercise (Modified Double Two-Step Test)

Studies of the electrocardiogram during and after exercise (walking on a treadmill ergometer at standard speed and grade) in normal subjects have shown a definite pattern of change in the Q-T interval and no evidence of coronary insufficiency. On the other hand, a large percentage of patients with various cardiopulmonary diseases showed definite and striking abnormal changes.

Since Master's "two-step" test has been widely used in different clinics, similar studies of the electrocardiogram during exercise were undertaken with modification of the original method. The procedure is described and the results obtained in 32 normal subjects and 54 patients with various cardiovascular diseases are presented. These studies suggest that the modified method can be used wherever the exercise electrocardiogram is indicated and that it contributes significantly to its sensitivity and safety.

The performance of the step test was the same as that described by Master except for the following modifications: (a) The CB4 or CB5 lead was used throughout the test and no tracings from limb leads were made. (b) A double two-step test lasting 3 minutes was performed on every subject unless it was interrupted by the appearance of symptoms or marked electrocardiographic abnormalities. (c) The tracings were made at rest, at the end of each minute during exercise, 30 seconds, 90 seconds, and 150 seconds after termination of exercise and 8 minutes after exercise or later.

The test was arbitrarily divided into 4 periods: (1) Resting—before exercise, (2) Exercise—3 minutes or less. (3) Early recovery—first 3 minutes of recovery. (4) Late recovery—eighth minute of recovery or later.

The double two-step test was performed in 32 normal subjects and 54 patients with various cardiovascular diseases. The changes in the electrocardiogram during and after exercise are reported and discussed. The criteria for an abnormal response in the modified double two-step test are defined. The significance of an increase in the amplitude of the T wave during exercise is clearly shown.

The modified method retains the merits of Master's original test and has several distinct advantages: (a) Changes in heart rate and the Q-T interval are recorded during exercise. The heart rate and the Q-T/T-Q ratio recorded during exercise may serve as a useful index of myocardial function. (b) It demonstrates that the electrocardiographic abnormalities in most cases of coronary insufficiency actually develop during exercise and persist to the recovery period. (c) In certain instances diagnostic changes are present only in the electrocardiograms taken during exercise, thus the sensitivity of the two-step test is augmented. (d) Since it makes possible electrocardiographic observation during exercise as well as during recovery it enhances the safety of the exercise test. (Circulation, Aug. 1952, P. N. G. Yu and A. Soffer)

* * * * * *

Eosinopenic Response in Acute Infections

The recent interest in the eosinophil has been chiefly because of its usefulness as an indicator of adrenocortical activity. This interest has extended into the more fundamental and still unsolved problem of the nature and function of the eosinophil. Review of a massive accumulation of factual data is now in progress in many laboratories. Therefore, it seemed worth while to re-examine a single facet of this larger problem, the natural behavior of this cell in acute infectious disease.

A restudy of this problem was indicated. It was decided to study the patients admitted to this hospital, (Veterans Administration Hospital, Staten Island, N. Y.) with ordinary infectious diseases and analyze them for possible simple clinical correlations. Elaborate metabolic and endocrinologic studies were obviously necessary but were not attempted in this study.

A historical survey of the eosinophil reveals an enormous mass of frequently controversial data. These data have produced very limited conclusions about the cell proper, eosinopenia and eosinophilia. The function of the eosinophil is still largely a mystery.

In acute infectious disease the prognostic significance of the circulating blood eosinophils has been known for many years. Their decrease or absence was considered a serious omen, their presence or reappearance a good clinical sign.

For several reasons the role of the eosinophil in acute infectious disease is worthy of restudy: (1) Emphasis, until very recently, has been

on their behavior as a manifestation of a specific disease. Their essential nonspecificity went either unnoticed or was underemphasized. (2) That eosinopenia is of significance, or that it occurs at all, has been widely ignored in this country. (3) Correlation of the older data with the newer concepts may be productive.

Twenty-six unselected patients taken from the routine admissions to the infectious disease ward were studied. Serial blood eosinophil counts were made by the Randolph chamber technic and the results were correlated with a variety of items. The best positive correlation was achieved with the clinical appearance of the patient.

Decrease or disappearance of the circulating blood eosinophils has been shown to be a sensitive as well as a constant indicator of increased adrenocortical function. This occurs in man and animals in various forms of stress, as the "alarm reaction" of Selye or after the administration of ACTH or cortisone. The eosinopenia of acute infectious disease is a manifestation of the "alarm reaction."

The fate of the eosinophil which disappears from the blood is unknown but the cell is probably not destroyed immediately.

So-called postinfectious eosinophilia is probably a combination of many specific and nonspecific factors.

Recent evidence has been accumulating to indicate that adrenocortical hormones may have a deleterious effect on certain acute infections in man or animals with intact adrenals. This mechanism may be operative in fulminating infections. (Am. J. Med., July 1952, H. A. Weiner and D. Morkovin)

* * * * * *

A Clinical Study of Radiation Sickness

Despite recent advances in radiological research, radiation sickness continues to be an obstacle to the successful administration of clinical radiation therapy for benign and malignant disorders.

In this article a detailed analysis of some of the important factors which may influence the incidence and severity of radiation sickness is presented. Among these factors are included the patient's age, body section irradiated, type of irradiated tissue, disease process treated, daily dose of radiation, surface area irradiated, and treatment period.

Two hundred and fifty-four patients, all males but 6, form the clinical material for this study during an observation period of 17 months. These patients received deep roentgen therapy for a variety of disease entities, principally malignant.

Deep roentgen therapy was employed, of a quality ranging from a half-value layer of 1 mm. Cu to 4.3 mm. Cu, with a target-skin distance of 50 to 70 cm., and portals ranging from 50 sq. cm. to 400 sq. cm. Treatments

were given daily except Sundays and holidays at levels ranging from 50 r in air to a single portal, to 150 r in air to each of 3 portals.

One hundred and sixty-three, or 63.6% developed the clinical syndrome of radiation sickness. Sixty-nine, or 27% had nausea and/or vomiting of varying degrees of severity.

The patients' age did not influence the incidence or severity of this complication in this group of patients. Radiation sickness was more common and more severe in those patients irradiated over the thorax, trunk, and abdomen, in contrast to those who received radiation in other body sections such as the head and neck, pelvis, and elsewhere. The radiation dose, the surface area, and the treatment period appeared to have a significant influence upon the incidence and severity of the radiation syndrome. These factors were integrated in the form of a value described as the daily surface intensity factor, or DSIF. The severity of the symptoms appears to be directly proportional to the average or mean DSIF, except in the case of the thorax.

It appeared that patients with leukemia as well as those with rheumatoid arthritis showed an increased disposition for the development of radiation sickness. (Am. J. Roentgenol., Rad. Therap. and Nuclear Med., Aug. 1952, F. Ellinger, B. Roswit, and J. Sorrentino)

* * * * * *

Roentgen Ray Cancer of the Hands in Dentists

The danger of repeated irradiation to the hands by roentgen rays during the exposure of dental films has been pointed out emphatically to every dental student and every dentist. The small but persistent incidence of radiation damage in dentists, however, indicated that some practitioners relax their usual caution and hold films in the mouths of their patients. If these exposures are too frequent or are continued over too many years, radiation sequelae are inevitable. The aims of this article are to reemphasize the danger, to describe the manifestations of radiation damage, and to make suggestions regarding prevention and treatment.

Radiation damage, usually to the thumb and first two fingers, may be manifested by dryness, scaliness, fissuring, ulceration, telangiectasis, atrophy, keratoses, and squamous cell carcinoma. Prevention is effected by scrupulous avoidance of exposure. Treatment of the dryness and scaliness is by the sparing use of oily lotions or creams. Fissures, abrasions, and ulcerations are treated by producing a crust with Mercurochrome, by dry protective dressings, or by scarlet red ointment-impregnated gauze dressings. Keratoses may be treated by electrodesiccation or by chemical cauterization, preferably with microscopic examination if there is any suspicion of malignancy. Cancer may be treated with surgical, electrosurgical,

or chemosurgical intervention. The last method with its complete microscopic control of excision has the advantages of unprecedented reliability and maximal conservation. Treatment with radium or roentgen rays is contraindicated. (J. Am. Dent. A., Aug. 1952, F. E. Mohs)

* * * * * *

Treatment in the Mixed Dentition Period

From the advent of modern orthodontics much has been written regarding the treatment of patients during the mixed dentition period. There are many cases which may be treated wholly or partially in the mixed dentition. There is one single factor which should always be foremost in the mind of the operator and should be a signal argument for immediate correction. That factor is the psychologic impact of malocclusion on the patient.

The following conditions should be treated: (1) All cross-bites, anterior and posterior. (2) All malocclusions which are caused by habits should be corrected as early as possible and a fervent effort should be made to break the habit. (3) All cases of mesial and distal tipping or drifting of permanent teeth. (4) Deep anterior overbites. (5) Imminent transpositions of lower permanent lateral incisors, permanent cuspids, upper first premolars, and permanent cuspid teeth. (6) Irregularities caused by supernumerary teeth. (7) Congenitally missing teeth conditions. (8) Labium frenum cases. (9) Conditions caused by tumors, cysts, periodontal disease, rickets, and congenital clefts of all kinds. (10) Ankylosed deciduous teeth irregularities. (11) Ectopic eruptions of teeth with special emphasis on the 6-year molars. (12) All cases in which arches have collapsed in whole or in part but in which arch length was not involved in the process.

Practically all cases may be treated during the mixed dentition period. Cases in which arch length is definitely shortened may be treated basically at this time and finished at a later date. When a psychologic factor exists an attempt should be made to alleviate it. The natural forces of occlusion should be brought to function as early as possible to encourage the maximum potential development of the oral mechanism. (Am. J. Orthodontics, Aug. 1952, F. T. Barich)

* * * * * *

Hepatic, Splenic and Left Gastric Arterial Ligations in Advanced Portal Cirrhosis

This article is an account of the author's first 12 cases of advanced portal cirrhosis of the liver treated by hepatic, splenic, and left gastric arterial ligations.

These patients were operated upon because they were cirrhotics who did not respond to medical management, including use of cation-anion resins, and who, in addition, had symptoms and signs which are known to indicate a poor prognosis if allowed to persist or progress. The symptoms and signs in the order of their gravity were (1) rapid regression in the size of the liver; (2) bleeding varices or bleeding from the gastrointestinal tract; (3) persistent vomiting or diarrhea or both; (4) ascites; (5) somnolence and lethargy; (6) uncontrollable edema; (7) persistent jaundice; and (8) associated hypersplenism. It has been shown that when the liver begins to regress rapidly in size, death usually occurs within 2 1/2 months. The over-all duration of the disease in these patients was approximately 4 years. Following a first hemorrhage from varices the average duration of life is 18 months; more than half of those who survive will bleed again, and their survival time will be about 13 months; of the latter group, one-fourth will have a third hemorrhage and their survival time will be about 4 months. Persistent ascites is a continuous plasmapheresis and is therefore extremely serious, indicating far-advanced hepatic decompensation. In 68% of the cirrhotic patients with ascites the duration of life is approximately 12 months, and only 17% survive 24 months.

From a study of the 12 cases in which ligations have been performed, the authors have learned that there are at least 3 definite contraindications to the operation:

1. The operation should not be done on patients who are actively bleeding from varices unless performed within the first 24 hours of bleeding. The authors believe that every effort should be made to control hemorrhage before surgery is instituted, and that, if it is not controlled within 24 hours, operation is mandatory before irreversible changes occur.

2. Persistent severe jaundice is a contraindication to surgery. This is usually associated with a large liver, indicating much venous stasis without shunts in operation and a great admixture of arterial blood in the liver.

3. There is only one other contraindication, and that is severe hypertension.

Ligation of the hepatic, splenic, and left gastric arteries in patients with advanced portal cirrhosis is a rational procedure which alleviates many of the serious complications and aids in hepatic vascular compensation. Esophageal venous pressure is reduced by occlusion of the left gastric artery and is therefore an added safeguard in the presence of esophageal varices. Supplementary therapy with cation-anion resins and

strict dietary control should be employed postoperatively to attain the best immediate results. This combination of medical and surgical management may interrupt the fatal progress of the disease. (A. M. A. Arch. Surg., July 1952, J. K. Berman and J. E. Hull)

* * * * * *

The Management of Stress Incontinence

Lack of perfect vesical control is a complaint voiced by many women, particularly those in the older age group who have borne children. It was usually customary to assume that these women, unless afflicted with a urogenital fistula or an evident neurologic lesion, were suffering from stress incontinence. Although often a solitary, clear-cut complaint, stress incontinence is not a clinical entity. It has sometimes been loosely used as a diagnostic term for incontinence due to any one of several primary causes: intrinsic vesical or urethral pathology, injury to the intrinsic urethrovesical sphincters, or neurologic lesions. It may be defined as the involuntary loss of urine from the bladder following a sudden increase in intra-abdominal pressure. Most often it is caused by failure of the mechanism involved in the voluntary inhibition of urination.

The problem of stress incontinence should be approached with the realization that this condition may be a symptom of several different functional or organic disorders. Usually it is evidence of loss of tone or injury of the apparatus involved in the voluntary inhibition of urination. Most often, but not always, women who suffer from stress incontinence have a demonstrable anatomic lesion affecting the supporting structures of the urethra, bladder, and anterior vaginal wall. The lesion permits a dislocation of the normal urethro-vesical-pubic relationship.

The particular therapy directed toward the relief of stress incontinence in the individual patient depends upon the severity of the incontinence, the extent and nature of the anatomic lesion, the patient's ability to use functionally the apparatus for the voluntary inhibition of urination, and the procedures which have already been used for its relief.

While no stereotyped plan for the treatment of stress incontinence can be followed, the following conclusions have been drawn regarding therapy in the 225 patients studied: 1. 90% of patients who have no anatomic lesion or only urethrocele will be relieved of stress incontinence by perineal exercises. 2. The majority of patients with cystourethrocele and stress incontinence will be best served by a vaginal plastic operation of the Kelly type followed by perineal exercises. More than 95% of this group will be cured of their incontinence. 3. Patients with uterine prolapse and stress incontinence should have surgical correction of the prolapse followed by perineal exercise. Exercises will be effective despite obliteration of the vagina. 4. A preliminary study suggests that perineal muscular structures may be developed and volitional efforts initiated by means of electrical

stimulation. In selected cases, where the patient has no ability to contract the perineal muscles, electrical stimulation should be given a trial before surgery is undertaken. 5. Fascial sling operations give excellent results but they should be reserved for cases where intractable stress incontinence has not yielded to other less heroic measures. They are indicated in patients in whom stress incontinence has not been relieved by vaginal plastic procedures, perineal exercises, or electrical stimulation. (Geriatrics, July-Aug. 1952, J. W. Huffman and J. K. Sokol)

* * * * * *

The Management of Ureteral Stone

Ureteral colic ranks with biliary colic, ruptured viscus, and acute hemorrhagic pancreatitis in the degree of pain and prostration. The clinical symptoms may simulate those of intestinal obstruction or appendicitis. On the other hand, the pain of dissecting aneurysm of the abdominal aorta may be mistaken for that of ureteral calculus. .

Usually the family physician is the first to examine the patient. In cities the usual practice is immediate referral to a urologist, but in rural areas it is often necessary that the patient be treated by a general practitioner. The authors herein present a plan of diagnostic and therapeutic procedure, with indications for the need of urologic consultation, based on a review of the literature and on observation of 423 patients with ureteral stone.

The following are factors in the management and treatment of patients with ureteral stone: (1) Control of pain, (2) survey of kidney function by excretory urography, (3) prevention or control of infection, (4) elimination of the stone by active or passive means, (5) regular progress examination and review during expulsion of the stone, and (6) prophylactic measures for prevention of growth of present or formation of future calculi.

Kidney function determination within a few hours of the onset of pain is mandatory. Excretory urography is the method of choice to determine the integrity of the affected and of the opposite kidney, and to settle the diagnosis.

For study of the urinary tract by excretory radiographic methods, many films with variation in the timing of exposures and with the patient in various positions are required. No preparation of the patient is necessary although dehydration is desirable. A preliminary flat film of the abdomen is made, and by inspection of it the need for semilateral and/or upright views to localize opacities can be determined. Then the urocontrast medium is injected intravenously over a period of 3 to 5 minutes. In the absence of suitable veins, subcutaneous administration of the medium is satisfactory after dilution 2:1 with normal saline solution. The authors have found no satisfactory test for sensitivity to urocontrast compounds.

After completion of the injection the first film is immediately exposed and is inspected within 5 minutes. The intervals between subsequent films depend upon the time it takes for the medium to enter the structures to be viewed. In most patients a good pyelogram of the unaffected kidney will be visible in 5 to 15 minutes. The appearance of the contrast medium in the obstructed kidney is usually delayed, but in most instances a pyelogram or nephrogram is visible within 30 minutes. If the medium does not enter the unaffected kidney, an emergency exists and immediate urologic consultation should be the rule. In later films, taken every 15 to 20 minutes up to 2 hours, the ureter may be observed to be filling. In antero-posterior and right and left semilateral views the shadow of opaque stones in the ureter will be within the path of the visualized ureter in all positions. Likewise, extraneous shadows, such as those in phleboliths, will be proved extra-urinary. In the rare instance of nonopaque stone, its presence will be revealed by ureteral obstruction, by filling defects in the urographic medium, or both. Upright films aid in localization. The bladder should be emptied by urination before the late films of stones in the lower ureter are made. In nearly complete obstruction, films exposed from 4 to 24 hours after injection may reveal a pyeloureterogram. Occasionally excretory studies are unsatisfactory, and urologic consultation and studies with retrograde pyelograms become necessary.

After pain is relieved and radiographic proof of diagnosis is obtained and the function of the opposite kidney is determined to be adequate, attention may be turned to the third most important principle—the prevention or control of infection. In this regard, the simplest and the most important study is examination of the urine. For males, the specimen must be taken from the second glass; for females it must be obtained by catheterization. The degree of infection can be determined by microscopic examination of centrifuged sediment, and the kind of infection by examination of gram-stained or methylene blue-stained specimens. Cultures are not necessary. Accurate selection of the proper urinary antiseptics depends upon whether gram-positive cocci or gram-negative bacilli are present.

The sulfonamides effective against both bacillary and coccal infection, are most effective. Penicillin is efficient only against coccal infections. The mycetogenic drugs have a wide range of activity but are expensive. For severe coccal infection, penicillin should be employed, while the "mycins" will cover a wide range when the other agents are ineffective or are contraindicated. No small part of the ability of general practitioners to treat patients with ureteral stone depends on the proper use of the efficient urinary antiseptics now available.

Sooner or later, depending upon circumstances, the physician must decide whether to refer the patient for active measures for elimination of the stone, or to treat him expectantly under careful observation. The indications for urologic consultation are: (1) Inadequate or absent contralateral kidney, (2) intractable pain, (3) persistent infection or acute sepsis,

(4) general deterioration, (5) persistent ileus, (6) large stone that almost certainly will not pass, (7) small irregular stone fixed in upper and/or middle one-third of ureter, (8) doubt in diagnosis necessitating retrograde pyelograms, (9) serious pre-existing obstruction, (10) lack of progress in passing the stone from any location, and (11) persistent nonfunction of affected kidney for more than 14 days.

The first 9 indications for referral are clear and should not be ignored. However, in the great majority of cases in which these conditions do not exist, it is safe to watch and wait. If that is to be done, the patient and his family must be indoctrinated to secure understanding and cooperation.

Minimum observation while waiting for the stone to be passed should include semi-weekly office visits to report progress and for examination, which should include microscopic inspection of centrifuged urine in wet mounts and in dry gram-stained preparations. A flat film of the abdomen should be made weekly: and if the stone remains for a month, excretory urograms are mandatory. Any change in the course of the disease necessitates radiologic re-examination and general re-evaluation. The use of antiseptics and pain-controlling drugs should be continued. His condition permitting, the patient should be encouraged to continue regular activities while conserving strength. Expectant treatment may be continued indefinitely if proper control is exercised. (California Medicine, July 1952, R. J. Prentiss, R. B. Mullenix, and J. M. Whisenand)

* *** * * *

Director for the Liberian Institute

The Liberian Institute of the American Foundation for Tropical Medicine desires the services of a full-time Resident Medical Director. The Institute established in 1950 is a research and training center in tropical medicine located near Harbel, West Africa, 2 miles from Roberts Field, international airport for West Africa, and 5 miles from the Firestone Plantation Company. The Director will have full charge of the Institute operations and will direct a broad program of research in tropical diseases. Those interested in applying for this post should have a well-rounded background in tropical medicine, a talent for investigation and leadership and be young enough to make a career of the assignment and be a graduate of a recognized medical school, school of Public Health, or their equivalent. The Institute itself consists of a large two story, 2 wing laboratory.building with 24 individual laboratory rooms and three 2-bedroom residential houses. The buildings are built of brick and reinforced concrete carefully designed to meet the conditions of a tropical climate. An attractive salary, transportation, and living quarters and vacation are offered. The tour of duty will be 2 years. Further information may be obtained from the Executive Director, American Foundation for Tropical Medicine, 345 Madison Ave., New York, 17, N. Y.

Postmortem Cesarean Section

Few physicians have the opportunity to perform a postmortem cesarean section and to obtain a living child. A review of the literature reveals that only 22 successful postmortem cesarean sections were reported in the entire world from 1937 to 1950. Ten of this number were in the United States. Two more recent cases were reported in March, 1949; both patients in these cases died of bulbar poliomyelitis and living infants were obtained. A successful postmortem section following death from pulmonary tuberculosis was reported in December, 1950.

Critical examination of these operations brings forth a number of practical points for consideration. First, during what period of gestation can a living child be obtained after its mother's death? The answer to this is the same as for the viability of any infant born at the same period of gestation, and it has been set by various authorities at from the twenty-sixth to twenty-eighth week. Second, how long after the death of the mother can the fetus survive in utero? Linzenmeier concluded that 20 minutes was the greatest length of time after death that a living child could be obtained, and Bacon reported that there was no authentic case on record in which the child lived more than 25 minutes after maternal death. Precisely when death occurs is difficult to determine. If possible have a consultant present to help decide the exact moment of death.

The fetal prognosis is better in sudden rapid death of the mother than after long-continued infectious diseases, intoxications, malignancies, or diseases of the blood. In reviewing the literature the principal causes of death of the mothers were nephritis, eclampsia, heart disease, cerebral hemorrhage, bulbar poliomyelitis, and trauma.

If the fetal heart has been heard or fetal movements felt just before death of the mother, it is reasonable to assume that the fetus is still living and the physician should proceed to immediate delivery. Experience has shown that postmortem delivery from below (except when the cervix is fully dilated and the head lies low in the pelvis) has usually resulted in the death of the infant.

When performing a postmortem section, the same aseptic technic should be maintained as is used in an ordinary abdominal operation. If this is not possible, the abdominal wall and fundus should be incised with any sharp instrument at hand and the infant removed. The placenta should be removed so that it will not be forced into the vagina later by uterine contractions. The uterus and abdomen should be sutured because history relates more than one instance in which an incision was made into the abdomen of a supposedly dead woman for the purpose of removing her child, and subsequently it was shown that she was still alive.

Medicolegally very little can be said because the applicable laws are none too clear. It is not certain what crime, if any, a physician commits if, after the death of the mother to be, he fails to perform a postmortem section

to save the infant. An unborn viable child is capable of independent existence and should be regarded as a separate identity. If the laws recognize an unborn child sufficiently to protect its property rights and rights of inheritance and protects it against the claims of others, the law should recognize the unborn child's separate existence for the purpose of redressing wrongs.

How far, if at all, the refusal of the father of the infant to consent to the operation would relieve the physician of criminal and civil liability, if any, is an open question. There is little doubt as to how public opinion would regard both the father of the unborn child and the physician who might by operation have saved the life of the child if they, singly or together, by inaction killed it. The only action the father could bring would be based on the mutilation of the body of his deceased wife, for certainly he could not claim to be damaged by having the life of his child saved. This question has been before the Bureau of Legal Medicine of the American Medical Association on previous occasions, but there have been no recent discussions on the medicolegal aspects of it. In only one state, Oklahoma, has any legislation been enacted dealing with this matter. Just what this legislation accomplished is a matter of considerable doubt.

The obligation to save the human fetal life when it can be done without destroying or jeopardizing another life is absolute. It is generally believed that no court today would hold that a father has the right to choose death for an unborn viable child by withholding his consent for a postmortem section. Common sense, Christian morals, and natural justice force this conclusion and it is this opinion that any court of today would so hold. (Am. J. Surg., Aug. 1952, H. P. Lattuada)

* * * * * *

Highlights in Current Incidence Rates

For the third successive month the incidence rate for all causes among Navy and Marine Corps personnel has declined. The rate for May 1952 of 423.5 per 1,000 average strength is 8% below that for April and 26% lower than the rate reported in February when the seasonal peak was reached. The reduction in the rate for disease conditions offsets a slight increase in the incidence rate for accidents, violence, and poisonings which reached 51.7 per 1,000 in May, the highest thus far this year.

Although there was a general decline in the rates for the various classes of disease in May, increases were observed for several specific conditions, mainly among the infective and parasitic diseases. The rate for venereal disease increased to 45.2 per 1,000, the highest reached this year. The rate for malaria went to 1.3 per 1,000, double that of the previous month and is a continuation of the steady rise since the first of the year. Slight increases were evident in the rates for scarlet fever and in-

fectious hepatitis. Another condition which evidenced a higher incidence rate in May was rheumatic fever with 2.4 per 1,000, a twofold increase over April.

The noneffective rate among Navy and Marine Corps personnel for all causes declined slightly from 18.2 in April to 17.5 per 1,000 average strength in May. This is the third month to show a decrease. Compared to the same month of the previous year the noneffective rate in May 1952 was 3.5 per 1,000 lower. Thus, fewer than 18 individuals out of each 1,000 were on the sick list every day during May this year as against 21 per 1,000 in May 1951. These rates are based on the number of sick days accumulated by all individuals reported as having been on the sick list during the month.

Diseases of current significance are: bacillary dysentery, scarlet fever, malaria, and rheumatic fever. (Statistics of Navy Medicine, Aug. 1952, BuMed)

* * * * * *

Gingivitis Gravidarum

In 203 pregnant women who had completely healthy gingivae at the first examination, gingivitis was subsequently found in 202.

A classification of the patients into group 1, 95 (47%) with gingivitis gravidarum specifica, and group 2, 108 (53%) with gingivitis gravidarum nonspecifica was justified by the fact that group 1 was found to have a characteristic clinical course which diverged markedly from group 2, indicating the presence of a gingivitis which, on the basis of its clinical course alone, must be considered specific to pregnancy.

The majority of the cases of specific gingivitis (group 1) began about the second month of pregnancy. The gingivitis symptoms increased during the pregnancy and reached a climax toward the end. The majority of the cases culminated in the eighth month, and a considerable number (about 41%) improved in the ninth month. The discovery of a clinical amelioration in the ninth month in about half of the specific cases may have some bearing on Ziskin and Nesse's demonstration of the reappearance of a slight keratinization of the epithelium in most of their cases in this month. The amelioration that takes place after delivery is often considerable, and it usually begins during the first few days following delivery.

In contrast to the characteristic course described there is no similar regularity among the nonspecific cases (group 2). No symptoms are found in the specific pregnancy gingivitis cases which are not also found in the nonspecific pregnancy gingivitis group, as well as in gingivitis in nonpregnant women. In the majority of the cases of specific pregnancy gingivitis the characteristic symptoms, which presumably begin at a very early period, are: inflammation of the gingiva, a tendency toward bleeding, and

the particular, excessive hyperemia. Among the specific cases the pregnancy furthered the inflammation of the gingiva or was a predisposing factor.

Hypertrophy of the gingiva is no longer a characteristic manifestation because about half of the specific cases did not develop new hypertrophic formations as a result of pregnancy. However, vigorous hypertrophies developed in about one-fourth of the patients. The tendency toward severe hypertrophic formations was found among only a minority of the specific pregnancy cases.

Among the majority of the specific cases the pregnancy causes a severe aggravation of any previously existing pathologic gingival condition.

It was formerly believed that a pregnancy gingivitis required little or no treatment, because it was expected to disappear spontaneously after parturition. These studies indicate that specific pregnancy gingivitis sometimes causes a permanent aggravation in the gingiva, even though there is improvement after delivery. Every case of gingivitis detected during pregnancy should be promptly treated.

This study has shown that local irritative factors do not cause gingivitis gravidarum specifica, because this form of the disease improves after parturition in spite of the continued presence of these factors. On the other hand, local factors may condition gingival reactions and have an aggravating effect, acting with the primary endogenous factors.

Specific pregnancy gingivitis is not caused by a vitamin C deficiency, and does not depend on the ascorbic acid level of the organism. A daily supplement of 50 mg. vitamin C had no effect on the gingiva, although it is clear that a supplement of this kind maintains the vitamin C content of the blood on a considerably higher level during pregnancy than would be possible without it. Nor is there any evidence that nonspecific pregnancy gingivitis is caused by a vitamin C deficiency.

The characteristic clinical course of specific pregnancy gingivitis demonstrated in this study seems to indicate a hormonal etiology. (Oral Surg., Oral Med., and Oral Path., July 1952, F. Hilming, Copenhagen, Denmark)

* * * * * *

The Use of the Tourniquet in Controlling Hemorrhage

In military surgery a properly applied tourniquet can be a life-saving first-aid measure. Improperly applied and used it may increase bleeding and hasten death. A tourniquet should be used only for life-endangering hemorrhage that cannot be controlled by other means. It should be placed as low as possible proximal to the wound. A notation should always be made on the Emergency Medical Tag giving the location and the time of application.

The medical officer or physician who first observes the casualty should reevaluate the need for a tourniquet applied by lay personnel, remembering that it may be fatal to loosen a tourniquet after massive hemorrhage. The

practice early in World War II of releasing a tourniquet for 5 minutes every 1/2 hour has been demonstrated to be unwise as well as unnecessary. More lives were lost by such a procedure than limbs saved. It must be assumed that in a wounded soldier requiring a tourniquet a considerable quantity of blood has already been lost and the additional loss of blood with each release of the tourniquet increases the risk of fatal shock. Under these circumstances it is preferable to accept the risk of ischemic gangrene in an already badly damaged extremity than to jeopardize life from hemorrhage by removal of the tourniquet. Experience has shown that a properly applied tourniquet may be allowed to remain undisturbed even for 3 or 4 hours with relatively little risk of ischemic gangrene.

For these reasons once a tourniquet has been applied it should not be released except in extreme emergency by any individual except a medical officer who is prepared to control the hemorrhage by other means and to replace blood volume adequately. This is preferable done at the first medical installation. (Prof. Div., BuMed)

* * * * * *

Training Course in Field Medicine

The second course for the Fiscal Year 1953 in Field Medicine for Inactive Volunteer Naval Reserve MC, MSC, and HC officers is scheduled to convene at the U. S. Marine Corps Barracks, Camp Joseph H. Pendleton, Oceanside, Calif., on Monday, 13 October 1952.

The course is of 2 weeks' duration and is designed to provide specialized training in field medicine including practical instruction in medical material logistics, preventive medicine in the field, professional treatment of emergencies, and medical organization with Fleet Marine Units. In addition, the trainee will receive practical instruction of a military nature including the maintenance and use of small arms, items of individual equipment, practical march, and bivouac.

The Commandants of the 11th, 12th, and 13th Naval Districts, respectively, have been assigned a quota for this course. Inactive Volunteer Naval Reserve MC, MSC, and HC officers residing in the 11th, 12th, and 13th Naval Districts who desire to attend this course should submit their request to the Commandant of their home Naval District at the earliest practicable date. Bachelor Officers' Quarters will be available. Working uniform is required.

It is desired to invite Inactive Volunteer Naval Reserve personnel's attention to the fact that attendance at this course WILL NOT, in any way, increase the possibility of involuntary recall to active duty. Eligible officers are encouraged to take advantage of this opportunity to attend this course on active duty for training orders in a pay status. (Reserve Div., BuMed)

Training Course in Amphibious Medicine

A training course of 2 weeks' duration for Naval Reserve MC, MSC, and HC officers in Amphibious Medicine is scheduled to convene on Monday, 6 Oct 1952 and continue to 18 Oct 1952 at the Amphibious Training Command, U. S. Naval Amphibious Base, Little Creek, Va.

The purpose of this course is to familiarize inactive Volunteer Naval Reserve MC, MSC, and HC officers in amphibious operations in general, and the medical aspects thereof in particular. The course consists of lectures, training films, demonstrations, and practical exercises to familiarize the officers with the nature of the medical service provided in amphibious operations. The embarkation, underway, and debarkation phases of the medical service are dealt with, and medical supply problems are presented.

Officers concerned should provide themselves with fatigue or utility-type uniform equipment for participation in the practical aspects of this course. Meals and sleeping quarters will be available at the Bachelor Officers' Quarters for those officers who desire such accommodations.

The 1st, 3rd, 4th, 5th, 6th, 8th, and 9th Naval Districts have been assigned quotas for this course.

Inactive Volunteer Reserve MC, MSC, and HC officers are encouraged to take advantage of the opportunity to attend this course on active training duty orders in a pay status. Officers who desire to attend this course should submit their request to the Commandant of their home naval district at the earliest practicable date. (Reserve Div., BuMed)

* * * * * *

Short Course Offered in Physical Medicine

Requests from medical officers USN and USNR for a 6 weeks' course in Physical Medicine to be given by Dr. Frank H. Krusen at the Mayo Foundation, Rochester, Minn., beginning October 13, 1952, will be favorably received by the Bureau of Medicine and Surgery. Following the 6 weeks' basic training in Physical Medicine under Dr. Krusen, those officers completing the course will subsequently be ordered to a Naval Hospital for an additional period of supervised, on-the-job training in Physical Medicine. No obligatory service will be incurred by officers taking this course. Officers having less than 1 year of service remaining should not apply for this course. (Prof. Div., BuMed)

* * * * * *

From the Note Book

1. The Surgeon General of the Navy, Rear Admiral Lamont Pugh, MC, USN accompanied by his executive assistant, Lieutenant Commander R. T. Brooks, MSC, USN left Washington on Friday, 1 Aug. 1952, for an extended tour of naval medical facilities in Alaska, the Far East, and the European-Middle East areas. (TIO, BuMed)

2. Reserve credit points may be earned by Reserve officers for attendance at the daily sessions of the 59th annual meeting of the Association of Military Surgeons, Nov. 17-19. The authorization covers physicians, dentists, veterinarians, nurses, Women's Medical Specialist and Medical Service Corps officers. Point credits will be awarded on the basis of 1 point each for each day of attendance, provided meetings attended total more than 2 hours. Registration for point credits will be handled by representatives of Second Army, Bureau of Medicine and Surgery, and First Air Force. Properly authenticated reports will be rendered to all Army Headquarters, Naval Districts, and the Reserve Recording Unit, and Numbered Air Forces. (PIO, Dept. of Defense)

3. The number of cases of malaria reported totalled 3,308 by 19 July according to the Public Health Service. The high incidence among military personnel may be attributed to: (1) not all returning veterans of the Korean war return by surface transport and there is not enough time to administer primaquine when evacuated by air; (2) not all personnel on transports take or absorb primaquine and some manage to elude the distribution system entirely; and (3) others who become seasick either do not take the tablets or do not retain them if taken. No relapses of malaria have been reported among the men who have taken primaquine experimentally. (Washington News, J. A. M. A., 9 Aug. 1952)

4. A survey of 6,816 cancer cases in Saskatchewan, Canada showed that 2,958 or 43% lived at least 5 years following treatment or registration at the 2 cancer clinics in the Province. The survey recently published by the Saskatchewan Cancer Committee, covers the years 1932-44 and lists cancer of the skin (1,287 cases) and cancer of the breast (1,000 cases) as the most prevalent types. (Cancer Control Letter, 31 July 1952, P. H. S., F. S. A.)

5. The diagnosis of presence or absence of placenta previa can be made with a high degree of accuracy by x-ray without the use of contrast substances in adjacent pelvic viscera. Careful study of films is necessary and a review of films in doubtful cases is indicated, especially if the first reading is made on wet films. (Am. J. Roentgenol., Aug. 1952, J. S. Fetter)

6. Observations reported indicate that in certain individuals, hypersensitivity to the mercurial components of mercuhydrin is induced by a

series of intramuscular injections of the drug. Studies are being made to ascertain whether or not the use of other mercurial diuretics will result in similar reactions. (Circulation, Aug. 1952, J. F. Whitman and W. L. Proudfit)

7. Functional regeneration after surgical transection of the spinal cord in the rat, cat, and dog is reported. Studies have established this regeneration as being due to the growth of neural elements. It is suggested that regeneration can take place in the divided human spinal cord. (Ann. Surg., Aug. 1952, L. W. Freeman)

8. A review of 347 cases of nonunion of the neck of the femur seen in the Campbell Clinic, Memphis, Tenn. from 1918 through 1949 appears in A. M. A. Arch. Surg., July 1952, H. B. Boyd and H. H. Brindley.

9. Experience with more than 100 cases suggests that intra-arterial transfusion is far superior to intravenous transfusion in both the treatment of established shock and as a preventive measure in operations where serious shock is expected. (The Lancet, 26 July 1952, D. L. C. Bingham)

10. The essentials of hospital disaster planning are discussed in Hospital, Aug. 1952. This article resulted from a conference between 21 hospital administrators.

11. A total of 2,648 cases of poliomyelitis was reported in the United States for the week ending 9 Aug. 1952. This represents an increase of 15% over the figure for the previous week. (P. H. S., F. S. A.)

12. A report of 25 consecutive operations for the correction of congenital ptosis will be found in the British Journal of Ophthalmology, July 1952, G. I. Scott.

13. The Public Health Service is closing 4 of its general hospitals as a result of Congressional cuts in Veterans Administration appropriations. The funds cut would have provided contract care for Veterans Administration patients in Public Health Service hospitals. The hospitals, located in Kirkwood, Mo., Mobile, Ala., Portland, Me., and San Juan, P. R., will discontinue admitting patients and will be converted to outpatient clinics as soon as provisions can be made for their present patients. (P. H. S., F. S. A.)

14. Two cases of congenital toxoplasmosis occurring in identical twins are reported in A. M. A. Am. J. Dis. Child., CAPT. J. L. Flannery, MC, USN and LTJG W. F. Murphy, MC, USNR

15. Desmoid tumors are rare fibrous tumors, usually found in the abdominal wall following pregnancy or previous surgical incision. They can be recognized early only if biopsy is done when any firm nodule is found. Complete surgical excision is the treatment of choice. (Lahey Clinic Bulletin, July 1952, R. B. Cattell and J. G. Wiedman)

16. Recent additions to the list of Navy Medical Corps officers certified by American Boards are: American Board of Surgery: CAPT. R. A. Cooper, MC, USN. American Board of Obstetrics and Gynecology: CDR. G. C. Calderwood, MC, USN; CDR. H. J. Hunter, MC, USN; LCDR. T. R. Mafit, MC, USN; and LCDR. J. A. Pease, MC, USN. American Board of Ophthalmology: CDR. S. A. Fuhring, MC, USN. American Board of Neurology: CDR. H. S. Colony, MC, USN. American Board of Dermatology and Syphilology: CDR. W. M. Enright, MC, USN. (TIO, BuMed)

17. CAPT. Julian Love, MC, USN and CDR. H. A. Lyons, MC, USN have been appointed as Official Examiners for the American Board of Internal Medicine. (TIO, BuMed)

18. CAPT. Van C. Tipton, MC, USN, Director, Special Weapons Defense Division, has been appointed by the American Public Health Association to serve as a member of the Committee on Research and Standards for a term to expire in 1954. He was also appointed Chairman of the Committee's newly organized Sub-Committee on Radiological Health. (TIO, BuMed)

19. The U. S. Naval Correspondence Course Center announces the release of a new officer course in "Leadership," available under NavPers number 10903. This new 5-assignment correspondence course presents much scientific background and explanatory material, yet a good portion of the textbook is devoted to a series of actual situations which require explicit action and the quality of leadership. (U. S. Naval Correspondence Course Center, U. S. Naval Base, Brooklyn, N. Y.)

20. Larger quantities of copper and aluminum for health facility construction projects may be self-authorized as a result of action taken by the National Production Authority. (P. H. S., F. S. A.)

21. An account of the methods and results of surgical treatment of localized encephalitis, brain abscess, and subdural empyema, supplemented by antibiotics and sulfonamides, appears in Journal of Neurosurgery, July 1952, E. H. Botterell and C. G. Drake.

List of Recent Reports Issued by Naval Medical Research Activities

U. S. Naval School of Aviation Medicine, U. S. Naval Air Sta., Pensacola, Fla.

The Effects of Decompression on Subjects Repeatedly Exposed to 43,000 Feet While Using Standard Pressure Breathing Equipment: Involuntary Hyperventilation During Pressure Breathing at 43,000 Feet., NM 001 059.21.01, 20 Feb. 1952.

Accompaniments of Word Intelligibility, NM 001 064.01.09, 21 Feb. 1952.

The Effectiveness of the Cycloramic Link Trainer in the U. S. Naval School, Pre-Flight, NM 001 058.07.01, 17 Mar. 1952.

Acceleration Problems of Naval Air Training: I Normal Variations in Tolerance to Positive Radial Acceleration, NM 001 059.02.09, 20 Mar. 1952.

Adaptation to Delayed Side-Tone-I, NM 001 064.01.12, 23 May 1952.

U. S. Naval Medical Research Institute, NNMC, Bethesda, Maryland.

A Small Magnetic Manipulator, NM 000 018.07.13, 6 Feb. 1952.

The Urinary Excretion of Gallium, NM 007 081.06.11, 17 Dec. 1951.

Further Studies on the Nature of the Hemorrhagic State in Radiation Injury, NM 006 012.04.40, 19 Nov. 1951.

Naval Medical Department Reference Collection of Enterobacteriaceae, NM 005 048.04.14, 12 Dec. 1951.

A Modified Synthetic Medium for the Genus Shigella, NM 005 048.19.01, 30 Jan. 1952.

Whole Body X-irradiation of Obese Mice, NM 006 012.05.07, 29 Apr. 1952.

Modification of the Beckman Spectrophotometer With an External "C" Battery Supply and a Voltage Checking Arrangement, NM 000 018.07.16, 29 Apr. 1952.

The Use of Small Laboratory Animals in Medical Radiation Biology, Part I, NM 006 012.04.43, 30 Apr. 1952.

The Use of Small Laboratory Animals in Medical Radiation Biology, Part II, NM 006 012.04.44, 15 May 1952.

Thermodynamic Functions of Adsorbed Molecules from Heats of Immersion, NM 000 018.06.15, 28 May 1952.

A One-Inch Lucite Cranial Window and Vitallium Holder for Installation in Monkeys, NM 007 081.07.07, 3 June 1952.

The Use of Preserved Tissues in Surgery, Lecture and Review Series No. 52-2, 17 Apr. 1952.

Modification in Design of Laboratory Vacuum Pumps II, NM 000 018. 07. 17, 20 May 1952.

A Glass Sleeve Coupling, NM 000 018. 07.18, 22 May 1952.

A Variable-Length Cell Compartment for the Beckman Spectrophotometer, NM 000 018.07.15, 16 Apr. 1952.

Demonstration of an Enzymatic Factor in Cercariae of Schistosoma Mansoni by the Streptococcal Decapsulation Test, NM 005 048.02.27, 3 June 1952.

A Model for the Elementary Process in Muscle Action, NM 000 018. 04. 06, 28 Mar. 1952.

Pharmacological Studies of Radiogermanium (Ge^{71}), NM 006. 012.04.55, 29 May 1952.

Studies on the Shwartzman Phenomenon II. The Suppressive Action of Nitrogen Mustard (HN2), NM 000 018.05.02, 14 Mar. 1952.

Preliminary Report on a Noise-Level Survey of Flight Operations Aboard the U. S. S. Coral Sea (CVB-43), NM 004 005.03.06, 30 June 1952.

Part II Effects of Cortisone on the Lethal Effect of Total Body X-irradiation of Mice, NM 006 012.05.08, 28 May 1952.

The Role of the Stomach Wall in the Exogenous Development of Plasmodium Gallinaceum as Studied by Means of Haemocoel Injections of Susceptible and Refractory Mosquitos, NM 005 048.20.01, 20 May 1952.

Gallium Studies of its Desposition in and Clearance From Bone, NM 007 081.06.12, 25 June 1952.

Pharmacological Studies on Irradiated Animals, Part I, Scope and Methodology, NM 006 012.05.04, 28 May 1952.

U. S. Medical Research Lab., U. S. Naval Submarine Base, New London, Conn.

Effects of Changes in Arterial Oxygen and Carbon Dioxide upon Cochlear Microphonics, NM 003 041.27.03, Vol. XI, No. 5, 28 Feb. 1952.

Thickness Adjustments of Glass Filters to Given Total Transmittance, NM 003 041.40, Vol. XI, No. 10, 10 Mar. 1952.

Factors in Night Vision Sensitivity: The Effect of Brightness, NM 003 041.09.04, Vol. XI, No. 11, 18 Mar. 1952.

The Relative Detectability of Red-Purples, Reds, and Yellow-Reds in Air and Sea Rescue, NM 003 041.35.02, Vol. XI, No. 12, 19 Mar. 1952.

An Animal Respirator for Use in Electrically Shielded Rooms, NM 003 041.27, 2 June 1952.

Comments on Test of Eye Savers, Night Driving Glasses With Double Value Interchangeable Lenses, NM 003 041.51, 5 Feb. 1952.

Tritanopia With Abnormally Heavy Ocular Pigmentation, NM 003 041.01.01, 28 May 1952.

U. S. Naval Medical Field Research Laboratory, Camp Lejeune, N.C.

Preliminary Mechanical Evaluation of Four Commercially Available Respirators, NM 007 083.03, June 1952.

The Catch Curve of Insects, NM 005 052.02.06, May 1952.

U. S. Naval Medical Research Unit #3, Cairo, Egypt

A New Salmonella Type (S. Cairo), NM 005 050.18.05

Medical Mission to the Yemen, Southwest Arabia 1951, I. Geomedical Observations, NM 005.39.19, May 1952.

BUMED NOTICE 6150 28 July 1952

From: Chief, Bureau of Medicine and Surgery
To: Hospitals, Hospital Ships, and Infirmaries Providing In-patient Treatment

Subj: Register of Patients (NAVMED-HF-39); revision of

Ref: (a) Art. 23-222, MMD

Encl: (1) Initial allowance of NAVMED-39 Forms

1. This notice provides for the introduction of a revised single-sheet form (NAVMED-39) which supersedes the present book form Register of Patients (NAVMED-HF-39) and the instructions for use.

* * * * * *

BUMED INSTRUCTION 6222.1 29 July 1952

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations having Medical Department personnel aboard

Subj: Urethritis, reporting of

Ref: (a) Medical News Letter, Vol. 19, No. 2, 25 Jan 1952, pages 2 and 3
(b) Art. 16-55(1) and Art. 16-50, MMD
(c) A Guide for the Diagnosis, Treatment and Followup of Venereal Disease in the U. S. Navy, NavMed P-1319

Encl: (1) Reprint from Armed Forces Medical Journal, Vol. III, No. 3, Mar. 1952, pages 401 to 405

1. The purpose of this instruction is to establish a policy on reporting all cases of urethral discharge.

* * * * * *

The printing of this publication has been approved by the Director of the Bureau of the Budget, 23 June 1952

BUMED INSTRUCTION 6120 29 July 1952

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Physical examinations, annual

Ref: (a) Art. 15-8, MMD
(b) Art. 15-45, MMD
(c) Art. 15-71, MMD

1. The purpose of this instruction is to implement regulations pertaining to annual physical examinations.

* * * * * *

BUMED INSTRUCTION 1770.1 1 Aug 1952

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: NAVMED-609, Report of Disposition and Expenditures--Remains of Dead

Ref: (a) Art. 23-26, MMD (Adv Ch 1-7)
(b) Art. 23-149, MMD (Adv Ch 1-7)
(c) Art. 17-76(5)(a), MMD

1. The purpose of this instruction is to call the attention of addressees to the necessity for prompt and careful preparation and submission of NAVMED-609.

* * * * * *

BUMED INSTRUCTION 4440.1 4 Aug 1952

From: Chief, Bureau of Medicine and Surgery
To: All Medical Department Activities and Facilities

Subj: Material to be reported as Equipment, Plant Property Class 3, and material to be carried and accounted for as equipment; instructions relative to

1. BuMed Circular Letter No. 51-103 is superseded and cancelled by this instruction which revises the criteria for material to be reported on

Plant Property class 3 and other material to be carried and accounted for as equipment by all Medical Department activities and facilities.

* * * * * *

BUMED INSTRUCTION 5605. 1 4 Aug 1952

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having a Representative of the Medical Department on Board

Subj: NavMed publications; current list of

1. This instruction lists by number and title the unclassified or restricted NavMed publications currently available to addressees on request, subject to supply limitations and other restrictions as noted. In the list, publications marked by an asterisk should be requested from the Bureau. All other requests for publications should be sent to U. S. Naval Supply Depot, Building 605, Scotia, N. Y. Publication P-130 (Handbook of the Hospital Corps, U. S. Navy 1939) is also available at the U. S. Naval Supply Depot, Velox, Spokane, Wash. Form NavExos-158(3-50) - Stock Forms and Publications Requisitions should be submitted when ordering all publications.

* * * * * *

BUMED INSTRUCTION 6710. 1 14 Aug 1952

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Sulfobromophthalein Sodium Injection, 0. 15 Gm., 3 cc., 10's SN 1-464-455; suspend issue and use of

Ref: (a) ALNAV No. 31-52 of 15 Jul 1952

1. Purpose. The purpose of this instruction is to incorporate reference (a) in the Bureau instructions.

2. Action. Suspend issue and use of SN 1-464-455, Sulfobromophthalein Sodium Injection, 0. 15 Gm., 3 cc., 10's manufactured by Unger and/or Gotham Pharmacal Companies pending further advice. This material is under investigation regarding the presence of pyrogens.

C. J. BROWN
Acting

BUMED INSTRUCTION 10490.1 14 Aug 1952

From: Chief, Bureau of Medicine and Surgery
To: Activities under BUMED Management Control and Financial Responsibility

Subj: Materials handling equipment; maintenance and replacement standards for

Ref: (a) BUSANDA INSTRUCTION 10490.4 to Bureaus, Boards and Offices of the Navy Department

1. The purpose of this instruction is to implement, in BuMed managed activities, the Department of Defense maintenance and replacement standards for materials handling equipment as promulgated by reference (a). These standards are intended to serve as a guide for budgetary and planning purposes. It is not intended to prohibit prudent deviation from the standards when justified under unusual or exceptional circumstances.

* * * * * *

BUMED INSTRUCTION 6820.1 14 Aug 1952

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations not Under Management or Financial Control of the Bureau of Medicine and Surgery Having Medical or Dental Officers Attached

Subj: Medical and dental periodicals; furnishing of

1. The purpose of this instruction is to provide information as to the medical and dental journals which will be furnished to addressees. BUMED Circular Letter No. 50-53 is hereby canceled.

* * * * * *

Change of Address

Please forward requests for change of address for the News Letter to: Commanding Officer, U. S. Navy Medical School, National Naval Medical Center, Bethesda 14, Maryland, giving full name, rank, corps, and old and new addresses.

PREVENTIVE MEDICINE SECTION

With this issue, the Preventive Medicine Section of the Medical News Letter makes its first appearance. In the future this section will be published once each month. Contributions of interest will be appreciated, as they were when "Preventive Medicine Notes" was published separately. In this form Preventive Medicine news will receive wider distribution.

* * * * * *

District PrevMed Conference

A preventive medicine and sanitation conference to aid in coordinating and correlating the thinking and planning of the Preventive Medicine Division and the Public Works Office of the Fourteenth Naval District was conducted recently by its preventive medicine officer. Growth and advancement of the fields of preventive medicine and sanitation were discussed, and emphasis given to the fact that both are the function and the responsibility of the command.

The following subjects were also discussed: insect and rodent control; operation of swimming pools, grease traps, septic tanks, and cesspools; the Navy's role in water-pollution control; the treatment of water in major disaster; and construction and rehabilitation of food-handling facilities and equipment. Aspects of special relevance in the district were emphasized.

Participants agreed that such a meeting (which had previously been suggested by the Surgeon General) was essential to the efficient fulfillment of their duties.

* * * * * *

Communicable Disease Control

EDCU #6 Wins Award

Epidemic Disease Control Unit #6 participated in the Hawaiian 49th State Fair as a representative of the Navy Medical Department, with gratifying results. For the exhibit prepared and shown by the Unit a certificate of Honorable Mention was awarded to the U. S. Navy.

The display had the dual theme "Epidemiology in the Field and in the Laboratory." For the field exhibit, a jeep for insecticidal spraying was shown together with materials for insect and rodent control. The labora-

tory exhibit consisted of laboratory equipment and several kinds of rodents in cages. Separating the two exhibits was a projection screen on which the film "Medicine at Work" was shown.

* * * * * *

Effectiveness of Smallpox Vaccination

"In combating an outbreak of smallpox on certain islands near Korea, all indigenous and United Nations military personnel were vaccinated. Incidence of vaccine failure was less than 1 per 1,000. Among U. S. personnel certified to have been vaccinated within the previous 3 months, over 25% had primary reactions. There was no significant difference, in this respect, between USN, USA, USAF, and USMC."

This report from Fleet Epidemic Disease Control Unit No. 1 indicates an appalling lack of protection from smallpox vaccination now being done. No vaccination is complete or dependable unless read by a medical officer or a responsible and well-trained technician. Anything less than a clear-cut reaction of immunity, or an accelerated or primary reaction, is a vaccination failure, and the vaccination must be repeated. It must be repeated as often as necessary until a definite reaction is obtained. Interpretation of an immediate reaction (of immunity) requires examination on the third or fourth day. Allergic reactions to dead vaccine may cause a red papule at 48 hours, and contribute nothing to immunity.

* * * * * *

Tuberculosis Control

Navy Chest X-ray Program for Civilian Employees

The chest X-ray program for civilian employees of the Navy was given additional impetus by numerous requests from commanding officers of activities employing civilians. It is also the expressed desire of the Office of Industrial Relations that this program be carried on. It is the logical development of the case-finding program of the Navy, placing the Navy among the leaders in the national effort to control and eradicate tuberculosis. The case-finding program is largely concerned with preventive medicine; because service and civilian personnel work side by side in many naval establishments and because the purpose of examining service personnel would be defeated if undiscovered infected civilians were permitted to work among them, it becomes logical then for the Navy to x-ray the civilian personnel to protect naval personnel. The main justification, however,

is to keep the civilian employees in a maximum state of health and efficiency, and to prevent loss of time and trained personnel.

Medical experience shows that even persons whose way of life and economic status are not exceptional may become victims of pulmonary tuberculosis——to their own detriment and that of their associates. Tubercle bacilli are disseminated in other places than the home. A person may have pulmonary tuberculosis in early minimal and also in later far-advanced stages and still lead an active life and have little or no outward appearance of disability; yet he can be the source of infection for others and may ultimately be disabled or may die from it himself. Furthermore, pulmonary lesions which appear to be clinically insignificant at first examination may, months or years later, become the center of active disease. Thus persons whose good health was originally certified may become the unknown source of danger both to themselves and to others. A teacher has been known to infect members of her class and a secretary was the unwilling source of an epidemic which disrupted a Government office. Recently one individual employed at a large naval air station was found to have been the probable source of tuberculous infection for two of his coworkers, both of whom had to lose many months of work while being hospitalized because he had knowingly concealed his condition for at least 4 years by evading the annual chest x-ray offered by this activity.

The chest x-ray program is designed to protect both the individual and the group and to assure employees of the healthfulness of their surroundings. The examinations should be made annually rather than at preemployment only. At present, the annual interval appears to be most practicable, although studies are being conducted to determine whether or not the new cases discovered will justify this frequency. One-hundred percent participation is the goal of the Navy, though it is not wholly attained. Many industries are fostering similar programs, which are of value to the community at large as well as to the employees and to the industry. The program is an important instrument of industrial relations and can be such an instrument for public relations for the Navy, especially in communities where there are naval activities employing thousands of civilians.

* * * * * *

Insect and Rodent Control

Use of Chlordane

A recent meeting of the Interdepartmental Committee on Pest Control recommended that applications of chlordane as a spot residual indoors should not be made more frequently than every 60 days. This is in addition

to the precautions listed in BuMed C/L 50-40. In most cases chlordane provides good roach control for much longer than 60 days and faulty techniques or resistance may be suspected when satisfactory control for this period is not obtained.

* * * * * *

New Publications

The following new publications are suggested for library additions: "Ground Equipment and Insecticides for Mosquite Control, American Mosquite Control Association." AMCA Bulletin #2, March 1952, Yaphank, N. Y., Price $2.00. "Fire and Explosion Hazard of Thermal Insecticidal Fogging," National Board of Fire Underwriters Research Report #9, 1952. 85 John Street, New York 38, N. Y. and Merchants Exchange Building, San Francisco 4, California.

* * * * * *

Mosquito Resistance to Control

Resistance of mosquitoes to DDT has become a serious problem in some areas, but it is not a general condition and a change to newer insecticides should not be considered unless the presence of resistance has been adequately confirmed, and nonchemical methods are not feasible. Changing to new chlorinated hydrocarbons will hasten development of resistance to all these compounds.

Field tests were conducted with interesting results at one activity which was having difficulty controlling mosquitoes. One test was for continuous exposure to 5% DDT (both in water and in #2 fuel oil, and with an untreated check cage); another test under similar conditions but for time exposure; and another for exposure to 5% DDT in #2 fuel oil carrier used as a thermal-generated aerosol.

It was concluded from these tests that no apparent resistance to DDT exists in the several mosquito species tested. It is pointed out, however, that further resistance tests should be made on mosquito species breeding in salt water. Faulty equipment, untrained personnel, and other deficiencies in the control program were the real problem, not resistance to DDT.

All activities which experience difficulty in the control of pests should request the technical assistance of an entomologist or of a Malaria and Mosquito Control Unit through their district or area medical officer. Approval of requisitions for new insecticide concentrates will be expedited if the recommendations of a qualified specialist are attached.

* * * * * *

BuMed Instruction on Warfarin

BuMed Instruction 6250.1 of 15 July 1952 provides complete information concerning the procurement and use of the rodenticide warfarin.

* * * * * *

Venereal Disease Control

Interviewer Training Program

The interviewer training program of the VD Contact Interviewers School in Norfolk, Va., is described by Robert Lugar, Public Health Representative, Division of Venereal Disease of the Norfolk City Health Department, in the "Digest of Venereal Disease Control Seminar of the Public Health Service, FSA, held in Kansas City, Mo. The school was established in 1949 by the U. S. Public Health Service in cooperation with the Navy, the Virginia State Health Department, and the City Health Department.

Initiated primarily for the benefit of the Armed Forces, the school has also welcomed civilians. By the reporting date it had trained 547 students, including 3 physicians, 383 Navy hospital corpsmen, 76 Public Health nurses, 70 civilian investigators, 19 USPHS representatives, and 5 Army technicians. It is noteworthy that 92% of the students have completed the course successfully.

Requisites for success in interviewing are a good education, an honest desire to interview, and personality. The student learns that he must approach patients in a positive manner and that rapport is an absolute necessity. He must be flexible enough to change his methods to cope with opposition and must know that if he receives lies, half-truths, and evasions the fault may be his own manner or his questions. He must be able to interpret everything the patient tells him, regardless of whether it appears to be relevant. While his job is not primarily education, he must be able to answer any questions the patient asks him. He must, of course, insure privacy for the interview and must rely on his memory a great deal, keeping note-taking to a minimum.

Interviews are recorded and played back for the class, which then offers criticisms and suggestions. All in all the student gets a complete picture of the local and national venereal disease problem and a first-hand knowledge of methods of attacking it.

Since the founding of the school there has been a significant improvement not only in the number of contact reports developed per case interviewed but also in the quality of contact reports, many of which formerly contained insufficient information. This has been related in many instances to a reduction in the incidence of venereal disease. Policing of Norfolk has been greatly

stepped up, but the interviewer training program is undoubtedly partly responsible for the lowest incidence rate ever recorded in the Fifth Naval District—9.8 per 1,000 in November and December of 1951.

Trained interviewers should be available to and utilized by every activity having venereal disease cases. One good report may detect in its incipiency a source otherwise capable of infecting many persons.

* * * * * *

General Sanitation

Precooked Frozen Foods, II

The last issue of "Preventive Medicine Notes" carried an item on developments and problems in the use of precooked frozen foods for special feeding operations, as aboard airplanes and submarines, where space and food-service help are at a minimum.

The major difficulty has been to keep the foods properly frozen during transportation and storage until they are heated just prior to serving. The Subcommittee on Food Supply of the Committee on Sanitary Engineering and Environment of the National Research Council in its report on the Laboratory examination of frozen food plates makes the following recommendations:

"1. That periodic inspections be made by personnel of the Armed Forces or by an acceptable official agency such as the Bureau of Animal Industry or local health department of all plants supplying frozen food plates. 2. That each supplier of frozen food plates be required to incorporate within the wrapper of each plate after the food thereon is frozen, a disc, the size of a small coin, of frozen methylene blue solution placed together with a piece of absorbent, nearly white paper, in a small, tightly sealed pliofilm envelope. (One of the problems has been that of detecting whether a frozen food package has thawed to a temperature at which the bacterial load may have been dangerously increased and then refrozen before use. The Subcommittee recommends the use of the frozen disc as described. "If the temperature of the food is consistently kept below the melting point of the methylene blue solution the frozen disc will remain intact. Otherwise the disc will be melted and the absorbent paper stained blue. This should give satisfactory assurance that frozen food plates have not been exposed to incubating temperatures since sampling for laboratory examination.") 3. That samples of at least two plates from each day's output be collected as delivered by the supplier for examination in a laboratory of the Armed Forces. 4. That each kind of food on each plate submitted as a sample be examined separately with the exception of baked or

boiled potatoes and relatively dry foods such as hard rolls and bread. 5. That the tests made include the standard plate count, microscopic clump count, and coliform plate count. 6. That all samples be required to meet a standard of not more than 50,000 per gram by the standard plate count and 1 per gram by the coliform plate count and that at least 9 out of each 10 consecutive samples be required to meet a standard of not more than 200,000 per gram by the microscopic clump count. 7. That estimates of the number of Micrococcus pyogenes var. aureus (Staphylococcus aureus) be made only in instances in which there is reason to suspect the sanitary conditions under which the frozen food plates are prepared at the plant or when bacteria counts have been repeatedly near the prescribed limits."

* * * * * *

Milk Sanitation Problems

One Epidemic Disease Control Unit reported several problems of milk sanitation. One concerned foreign matter repeatedly found in the milk processed by a local dairy, which was suspended from the approved list of dairies for naval activities for 30 days. A recurrence, even after a letter of warning had been sent, revealed more foreign matter in an improperly washed bottle. An additional suspension period of 6 months was imposed on the dairy.

In another instance reports were received of a quininelike bitter flavor in milk obtained from a naval supply center and the milk traced to that of one dairy. Bacteriologic studies of the milk, which gave no evidence of being inferior in quality when received and was normal in appearance and odor, showed high standard plate counts, but no unusual organisms were isolated. It is believed that the bitter flavor was caused by the products of protein breakdown in the old milk (at least 7 days old when tested).

An instance of lead beads found in canned milk was reported. The lead apparently was introduced into the can when it was sealed following the evacuation of air from the can.

Sale of a stabilized whipped-cream product to naval activities by a dairy was suspended because of high coliform counts until four consecutive samples showed no coliform organisms. The source of contamination was the nitrous oxide jets of the processing machine. Back siphonage of the cream into these jets had occurred and provided a culture medium for coliform and other organisms. When the gas was forced into the containers, the cream was seeded with coliform organisms. Disassembling the gas machine at the end of each day and proper sanitizing of the contact parts eliminated the problem. Literature regarding whipped-cream dispensers is cited by Harold Wainess in connection with his article "Whipped Cream Dispensers—Their Public Health Significance" in Journal of Milk and Food Technology for March-April 1952. Upon measuring the volume of stabilized whipping cream shipped

to the naval supply center, one activity, using a standard graduate cylinder at 20° C. found each quart container to be 1-1/2 ounces short. The information was forwarded to the purchasing officer so that a price adjustment could be made.

* * * * * *

Vesicular Exanthema in Swine

Vesicular exanthema, a serious disease of swine occurring in the last 20 years in California, has become widespread over the United States in the past few weeks. While it is considered nonpathogenic for man, and the mortality rate among affected animals is not high, it is causing grave concern to the livestock industry because of financial loss resulting from decreased weight, retarded growth, abortions, and secondary infections. A committee of Department of Agriculture representatives and State livestock officials has studied control measures and believes that the major factor in the introduction, perpetuation, and dissemination of this virus disease is raw garbage.

It is recommended that all messes, as well as households of naval personnel at shore bases, withhold all uncooked fresh pork scraps and trimmings from garbage cans and incinerate or otherwise dispose of them to insure that they will not be fed uncooked to swine. This will also aid in the control of other pork-borne diseases such as trichinosis and hog cholera.

* * * * * *

DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY
WASHINGTON 25, D. C.

OFFICIAL BUSINESS

Permit No. 1048

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, $300